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Date 6/18/01 Label No. 62706743014us

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Signature

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Customer No.:



07278

PATENT TRADEMARK OFFICE

Docket No: 3380/11127-US4

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Lawrence PAPSIDERO; Lyn DYSTER; Jana FRUSTACI

Serial No.: 09/834,794

Art Unit: 1642

Confirmation No.: 1046

Filed: April 13, 2001

Examiner: TBA

For: DETECTION AND TREATMENT OF BREAST DISEASE

SUBMISSION OF SUBSTITUTE SEQUENCE LISTING AND
STATEMENT PURSUANT TO 37 C.F.R. §1.821

Hon. Commissioner of
Patents and Trademarks
Washington, DC 20231

June 18, 2001

Sir:

This submission responds to the Notice to Comply with Requirements for Patent Applications Containing Nucleotide Sequence and/or Amino Acid Sequence Disclosures dated June 7, 2001 (copy enclosed). The time set for this response is August 7, 2001.

IN THE SPECIFICATION

Please replace the prior paper copy of the Sequence Listing in the application with the enclosed paper copy of the Sequence Listing.

REMARKS

It was noted in the enclosed Notice to Comply with Requirements for Patent Applications Containing Nucleotide Sequence and/or Amino Acid Sequence Disclosures that the prior submission of the Sequence Listing, submitted on April 13, 2001, failed to comply with the requirements set forth in 37 C.F.R. §1.821 through §1.825. Specifically, it was contended that the use of the term "Artificial" to define the organism for field <213> was incomplete, per 37 C.F.R. §1.823(b) of the New Sequence Rules. Additionally, it was stated that a line length was greater than 72 characters.

In response to this Notice and pursuant to the requirements of 37 C.F.R. §1.821 through §1.825 for Sequence Listings, a substitute computer readable form (diskette) and a substitute paper copy containing the Sequence Listing are submitted concurrently herewith.

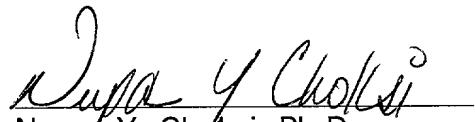
STATEMENT PURSUANT TO 37 C.F.R. § 1.821

Pursuant to 37 C.F.R. §1.821, applicants herein state that the contents of the attached paper entitled "SEQUENCE LISTING" and of the accompanying identically labeled diskette, specifically the ASCII-encoded file therein labeled "SEQUENC3.txt", are

identical and that the sequence submission contains no new matter.

Consideration of this response forwarding the enclosed diskette and paper copy of the sequence listing are respectfully requested.

Respectfully submitted,



Neepa Y. Choksi, Ph.D.

Reg. No. 47,488

Agent for Applicants

DARBY & DARBY, P.C.
805 Third Avenue
New York, N.Y. 10022
Phone (212) 527-7700



SEQUENCE LISTING

<110> Lawrence, Papsidero
Lyn, Dyster
Jana, Frustaci

<120> Detection and Treatment of Breast Cancer

<130> 3380/11127-US4

<140> 09/834,794
<141> 2001-04-13

<150> 09/146,580
<151> 1998-09-03

<150> 60/071,899
<151> 1998-01-20

<150> 60/092,155
<151> 1998-07-09

<160> 35

<170> PatentIn version 3.0

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<212> PRT
<213> Homo sapiens

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<223> Xaa at position 91 is either Lys or Asn

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20 25 30

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35 40 45
Cys Arg Ile Gln Arg Ala Asp Gly Asp Cys Asp Leu Ala Ala Val Ile
50 55 60
Leu His Val Lys Arg Xaa Arg Ile Cys Val Ser Pro His Asn His Thr
65 70 75 80
Val Lys Gln Trp Met Lys Val Gln Ala Ala Xaa Lys Asn Gly Lys Gly
85 90 95
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100 105 110
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115 120 125

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<220>
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20 25 30
Gly Asp Cys Asp Leu Ala Ala Val Ile Leu His Val Lys Arg Xaa Arg
35 40 45
Ile Cys Val Ser Pro His Asn His Thr Val Lys Gln Trp Met Lys Val
50 55 60
Gln Ala Ala Xaa Lys Asn Gly Lys Gly Asn Val Cys His Arg Lys Lys

65 70 75 80

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85 90 95

Thr Tyr Gly His Lys Thr Pro Tyr
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Met Cys

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<212> PRT
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<211> 19
<212> PRT
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cattgcctcc	agctgttgca	cggaggttcc	acatcatatt	tccagaaggc	tcctggaaag	180
agtgaatatg	tgtcgcatcc	agagagctga	tggggattgt	gacttggctg	ctgtcatcct	240

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gaaagtgcaa gctgccaana aaaatggtaa aggaaatgtt tgccacagga agaaaacacca 360
tggcaagagg aacagtaaca gggcacatca gggaaacac gaaacatacg gccataaaac 420
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tgattggttg taagtttac atctgaattc tccttattgt agacaacaga acaaaacaaa 540
atattggttt ttaaaaaatg aacaattgtg cgtatgcaa atgtacccaa taatatactc 600
cactggaaaa taaaaatgaaa aaannatact ggctgggtat ggtgggtccc ccctttatc 660
ccannnnctt cgggaggcag aggaggagg atcacttgag accaggantt ngagacnagc 720
tnggggcaaa anagcaanga cntcattnt acaaacnaaa aaaaanntg gcccggcntg 780
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ttagagtca taaatattag ggttatttt ctaaatagaa tagttaaac taaatataac	1920
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gtyncnnntag gtnaaatgc cacaaaaact ggccttggc ctaatatccy ycnnntgamta	2760
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taactaaaa tattaataaa ccacaatttt aaattaatta accgtgataa ccaacattaa	3000
taaaagttaa gataccaaaa cactggtgtn taatttttn aactaacaan ttgaattatt	3060
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<213> Homo sapiens

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<220>

<221> unsure

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gaagccatac ttcccatattgc ctccagctgt tgcacggagg tttcacatca tatttccaga 120

aggctcctgg aaagagtgaa tatgtgtcgc atccagagag ctgatgggaa ttgtgacttg 180

gctgctgtca tccttcatgt caagcgcnga agaatctgtg tcagcccgca caaccatact 240

gttaaggcagt ggatgaaagt gcaagctgcc aaaaaaaatg gtaaaggaaa tgtttgccac 300

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tacggccata aaactcctta t 381

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<211> 104

<212> DNA

<213> Homo sapiens

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<210> 9

<211> 25

<212> DNA

<213> Homo sapiens

<400> 9

gaattcacgt aggaaattct taacc 25

<210> 10
<211> 22
<212> DNA
<213> Homo sapiens

<400> 10
actgggattta taggtgtgag cc

22

<210> 11
<211> 311
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tccactgctt aacagtatgg ttgtgcgggc tgacacagat tnttctgcgc ttgacatgaa 180
ggatgacagc agccaagtca caatccccat cagctctctg gatgcgacac atattcactc 240
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gaagtatggc t 311

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<220>
<223> Sequencing primer T7

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20

<210> 13
<211> 18
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<213> Artificial sequence

<220>
<223> pCR3.1 Reverse Primer

<400> 13
tagaaggcac agtcgagg 18

<210> 14
<211> 22
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<210> 15
<211> 24
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<210> 17

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<211> 25
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<223> Gene specific primer (F3)

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<212> DNA
<213> Artificial sequence

<220>
<223> primers F8

<400> 18
ccgtatgttt cgtgtttccc ctga 24

<210> 19
<211> 24
<212> DNA
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<220>
<223> Primer R5

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agccatactt cccattgcct ccag 24

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<212> PRT
<213> Homo sapiens

<400> 20

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20 25 30

Ala Tyr His Tyr Pro Ile Gly Trp Ala Val Leu Arg Arg Ala Trp Thr
35 40 45

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Tyr Arg Ile Gln Glu Val Ser Gly Ser Cys Asn Leu Pro Ala Ala Ile
50 55 60

Phe Tyr Leu Pro Lys Arg His Arg Lys Val Cys Gly Asn Pro Lys Ser
65 70 75 80

Arg Glu Val Gln Arg Ala Met Lys Leu Leu Asp Ala Arg Asn Lys Val
85 90 95

Phe Ala Lys Leu His His Asn Met Gln Thr Phe Gln Ala Gly Pro His
100 105 110

Ala Val Lys Lys Leu Ser Ser Gly Asn Ser Lys Leu Ser Ser Ser Lys
115 120 125

Phe Ser Asn Pro Ile Ser Ser Ser Lys Arg Asn Val Ser Leu Leu Ile
130 135 140

Ser Ala Asn Ser Gly Leu
145 150

<210> 21

<211> 95

<212> PRT

<213> Homo sapiens

<400> 21

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20 25 30

Leu Gly Tyr Thr Asp Arg Ile Leu His Pro Lys Phe Ile Val Gly Phe
35 40 45

Thr Arg Gln Leu Ala Asn Glu Gly Cys Asp Ile Asn Ala Ile Ile Phe
50 55 60

His Thr Lys Lys Lys Leu Ser Val Cys Ala Asn Pro Lys Gln Thr Trp
65 70 75 80

Val Lys Tyr Ile Val Arg Leu Leu Ser Lys Lys Val Lys Asn Met
85 90 95

<210> 22

<211> 94

<212> PRT

<213> Homo sapiens

<400> 22

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20 25 30

Cys Cys Leu Glu Tyr Phe Lys Gly Ala Ile Pro Leu Arg Lys Leu Lys
35 40 45

Thr Trp Tyr Gln Thr Ser Glu Asp Cys Ser Arg Asp Ala Ile Val Phe
50 55 60

Val Thr Val Gln Gly Arg Ala Ile Cys Ser Asp Pro Asn Asn Gln Arg
65 70 75 80

Val Lys Asn Ala Val Lys Tyr Leu Gln Ser Leu Glu Arg Ser
85 90

<210> 23

<211> 96

<212> PRT

<213> Homo sapiens

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20 25 30

Cys Cys Phe Ser Phe Ala Glu Gln Glu Ile Pro Leu Arg Ala Ile Leu
35 40 45

Cys Tyr Arg Asn Thr Ser Ser Ile Cys Ser Asn Glu Gly Leu Ile Phe
50 55 60

Lys Leu Lys Arg Gly Lys Glu Ala Cys Ala Leu Asp Thr Val Gly Trp
65 70 75 80

Val Gln Arg His Arg Lys Met Leu Arg His Cys Pro Ser Lys Arg Lys
85 90 95

<210> 24

<211> 77

<212> PRT

<213> Homo sapiens

<400> 24

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Ile Asn Arg Lys Ile Pro Ile Gln Arg Leu Glu Ser Tyr Thr Arg Ile
20 25 30

Thr Asn Ile Gln Cys Pro Lys Glu Ala Val Ile Phe Lys Thr Lys Arg
35 40 45

Gly Lys Glu Val Cys Ala Asp Pro Lys Glu Arg Trp Val Arg Asp Ser
50 55 60

Met Lys His Leu Asp Gln Ile Phe Gln Asn Leu Lys Pro
65 70 75

<210> 25

<211> 98

<212> PRT

<213> Homo sapiens

<400> 25

Met Lys Val Ser Ala Val Leu Leu Cys Leu Leu Leu Met Thr Ala Ala
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Phe Asn Pro Gln Gly Leu Ala Gln Pro Asp Ala Leu Asn Val Pro Ser
20 25 30

Thr Cys Cys Phe Thr Phe Ser Ser Lys Lys Ile Ser Leu Gln Arg Leu
35 40 45

Lys Ser Tyr Val Ile Thr Thr Ser Arg Cys Pro Gln Lys Ala Val Ile
50 55 60

Phe Arg Thr Lys Leu Gly Lys Glu Ile Cys Ala Asp Pro Lys Glu Lys
65 70 75 80

Trp Val Gln Asn Tyr Met Lys His Leu Gly Arg Lys Ala His Thr Leu
85 90 95

Lys Thr

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<211> 97

<212> PRT

<213> Homo sapiens

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20 25 30

Cys Phe Asn Leu Ala Asn Arg Lys Ile Pro Leu Gln Arg Leu Glu Ser
35 40 45

Tyr Arg Arg Ile Thr Ser Gly Lys Cys Pro Gln Lys Ala Val Ile Phe
50 55 60

Lys Thr Lys Leu Ala Lys Asp Ile Cys Ala Asp Pro Lys Lys Lys Trp
65 70 75 80

Val Gln Asp Ser Met Lys Tyr Leu Asp Gln Lys Ser Pro Thr Pro Lys
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Pro

<210> 27
<211> 99
<212> PRT
<213> Homo sapiens

<400> 27

Met Lys Ala Ser Ala Ala Leu Leu Cys Leu Leu Leu Thr Ala Ala Ala
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Phe Ser Pro Gln Gly Leu Ala Gln Pro Val Gly Ile Asn Thr Ser Thr
20 25 30

Thr Cys Cys Tyr Arg Phe Ile Asn Lys Lys Ile Pro Lys Gln Arg Leu
35 40 45

Glu Ser Tyr Arg Arg Thr Thr Ser Ser His Cys Pro Arg Glu Ala Val
50 55 60

Ile Phe Lys Thr Lys Leu Asp Lys Glu Asp Cys Ala Asp Pro Thr Gln
65 70 75 80

Lys Trp Val Gln Asp Pro Met Lys His Leu Asp Lys Lys Thr Gln Thr
85 90 95

Pro Lys Leu

<210> 28
<211> 99
<212> PRT
<213> Homo sapiens

<400> 28

Met Lys Val Ser Ala Ala Leu Leu Cys Leu Leu Leu Thr Ala Ala Ala
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Phe Ile Pro Gln Gly Leu Ala Gln Pro Asp Ala Ile Asn Ala Pro Val
20 25 30

Thr Cys Cys Tyr Asn Phe Thr Asn Arg Lys Ile Ser Val Gln Arg Leu
35 40 45

Ala Ser Tyr Arg Arg Ile Thr Ser Ser Lys Cys Pro Lys Glu Ala Val
50 55 60

Ile Phe Lys Thr Ile Val Ala Lys Glu Asp Cys Ala Asp Pro Lys Gln
65 70 75 80

Lys Trp Val Gln Asp Ser Met Asp His Leu Asp Lys Gln Thr Gln Thr
85 90 95

Pro Lys Thr

<210> 29
<211> 91
<212> PRT
<213> Homo sapiens

<400> 29

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Leu Cys Ala Pro Ala Ser Ala Ser Pro Tyr Ser Ser Asp Thr Thr Pro
20 25 30

Cys Cys Phe Ala Tyr Ile Ala Arg Pro Leu Pro Arg Ala His Ile Lys
35 40 45

Glu Tyr Phe Tyr Thr Ser Gly Lys Cys Ser Asn Pro Ala Val Val Phe
50 55 60

Val Thr Arg Lys Asn Arg Gln Val Cys Ala Asn Pro Glu Lys Lys Trp
65 70 75 80

Val Arg Glu Tyr Ile Asn Ser Leu Glu Met Ser
85 90

<210> 30
<211> 93
<212> PRT
<213> Homo sapiens

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Met Lys Ile Ser Val Ala Ala Pro Phe Phe Leu Leu Ile Thr Ile
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Ala Leu Gly Thr Lys Thr Glu Ser Ser Ser Arg Gly Pro Tyr His Pro
20 25 30

Ser Glu Cys Cys Phe Thr Tyr Thr Tyr Lys Ile Pro Arg Gln Arg
35 40 45

Ile Met Asp Tyr Tyr Glu Thr Asn Ser Gln Cys Ser Lys Pro Gly Ile
50 55 60

Val Phe Ile Thr Lys Arg Gly His Ser Val Cys Thr Asn Pro Ser Asp
65 70 75 80

Lys Trp Val Gln Asp Tyr Ile Lys Asp Met Lys Glu Asn
85 90

<210> 31
<211> 92
<212> PRT
<213> Homo sapiens

<400> 31

Met Lys Leu Cys Val Thr Val Leu Ser Leu Leu Met Leu Val Ala Ala
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Phe Cys Ser Pro Ala Leu Ser Ala Pro Met Gly Ser Asp Pro Pro Thr
20 25 30

Ala Cys Cys Phe Ser Tyr Thr Ala Arg Lys Leu Pro Arg Asn Phe Val
35 40 45

Val Asp Tyr Tyr Glu Thr Ser Ser Leu Cys Ser Gln Pro Ala Val Val
50 55 60

Phe Gln Thr Lys Arg Ser Lys Gln Val Cys Ala Asp Pro Ser Glu Ser
65 70 75 80

Trp Val Gln Glu Tyr Val Tyr Asp Leu Glu Leu Asn
85 90

<210> 32
<211> 93
<212> PRT
<213> Homo sapiens

<400> 32

Met Gln Val Ser Thr Ala Ala Leu Ala Val Leu Leu Cys Thr Met Ala
1 5 10 15

Leu Cys Asn Gln Val Leu Ser Ala Pro Leu Ala Ala Asp Thr Pro Thr
20 25 30

Ala Cys Cys Phe Ser Tyr Thr Ser Arg Gln Ile Pro Gln Asn Phe Ile
35 40 45

Ala Asp Tyr Phe Glu Thr Ser Ser Gln Cys Ser Lys Pro Ser Val Ile
50 55 60

Phe Leu Thr Lys Arg Gly Arg Gln Val Cys Ala Asp Pro Ser Glu Glu
65 70 75 80

Trp Val Gln Lys Tyr Val Ser Asp Leu Glu Leu Ser Ala
85 90

<210> 33
<211> 92
<212> PRT
<213> Homo sapiens

<400> 33

Met Gln Val Ser Thr Ala Ala Leu Ala Val Leu Leu Cys Thr Met Ala
1 5 10 15

Leu Cys Asn Gln Phe Ser Ala Ser Leu Ala Ala Asp Thr Pro Thr Ala
20 25 30

Cys Cys Phe Ser Tyr Thr Ser Arg Gln Ile Pro Gln Asn Phe Ile Ala
35 40 45

Asp Tyr Phe Glu Thr Ser Ser Gln Cys Ser Lys Pro Gly Val Ile Phe
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Val Tyr Thr Ser Trp Gln Ile Pro Gln Lys Phe Ile Val Asp Tyr Ser
35 40 45

Glu Thr Ser Pro Gln Cys Pro Lys Pro Gly Val Ile Leu Leu Thr Lys
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